3-Assemble tubes, fittings and weld as per Dwg D3016 using welding jig

DT8597

4-Transfer drill holes from D3017-041 and D3021-041 in seat frame D3016-041

5- Assemble brackets and gusset per dwg and weld

110

QC9- Inspect visual per QSI004- Fusion Welds

0.00

110

Memo

0.00

Quality Control

DQA:	Date:	t	•

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

										QA Closed:	Date	:
Work Orde	, ė .				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap		ſ	Skid-tube Machining	Crosstube Small Fab	1	Water Jet d. Eng. Coor.	Engineering Quality
NCR N	o				Use-as-is Work Order Update			noforming Large Fab	Finishing Composite	Rec/Stor	e/Packaging Supplier	Other
Root				Descri	ption of work order update	Į.	nitial	Ac	ction	Sign &	_	
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data												
quip/Tooling												
Operator												
Material [:					
etup								ĺ				
Other					•							
Process										4		
Supplier												
Fraining												
Jnapproved						<u> </u>						
					<u> </u>	AUL	T CATE	GORY				
Landir	ng Gear			_	General				······	,	_	
	Bending				Bend	Ш	Grain			Ovalized		Pressure/Forced
	Centre N	ot Conce	ntric to	O/S	BOM/Route	Ш	Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	Ш	Inspecti	ion Incomplete		Part Incorred	it	Weld
	Crushed	Crimped			Burrs	Ш	Instruct	ions Incomplete/	/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination	Ш	Mainte	nance		Part Moved		
	Heat Tre	at		<u> </u>	Countersink		Mislabe	:led		Positioned V	Vrong	-
	Inspection	n Strip in	Tube		Cut Too Short		Misread	t		Power Loss/:	Surge	Other
	Ripples i	n Bend			Drill Holes		Offset					
ĺ	Torque V	Vaves in I	Extrusio	n [_	Drawing		Out of 0	Calibration				
	Turning S	Sequence			Finish		Out of S	Sequence				
	Wave/Tv	vist in Tul	эe		Folio		Outside	Dimensions		 -		

Work Orde		6116			*106	3116*							Page 2	!
Item ID: Revision ID:	D3016-041			,	Accept	*N900	040	100)* s	etup		*N:	S1*	
Item Name:	Seat Frame As	ssembly									Stop	*N:	S2*	
Start Date:	8/28/13	Start Qty: 1.00		*1*		Cust Item I	D:							
Required Date:	8/28/13	Req'd Qty: 1.00		*1*		Customer:								
Reference:								_	_		C 4 4			
Approvals:	Process Pla	ın:	Date:	~	Tooling:	D:	ate:		К	kun	Start	*N	R1*	
			Date:		SPC (Y/N):	D:	ate:				Stop	*N	R2*	
Sequence ID/ Work Center II	D	Operation Description			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp	
120		QC5- Inspect part compl	eteness to st	ep on W/O	0.00							ĺ	DAG	
120 QC Quality Control		Memo			0.00				_D_	_\	5 <u>0</u> 9	.30 (DAG 09 09	
130		Grey Sandtex(Ref:4.3.5.	6) per QSI00)5 4.3	0.00									
130 Powdercoat		Memo		(20	0.00			ĺ	XX	M	1-/	13,	10/00	2
Powder Coating M 3	028	Install paint START TIN OVEN TEM FINISH TIN	1E: 1PERATUR	etting ends	SOF				<i>'</i> / ·				,	
140		QC3- Inspect Part Finish	[[]	<i>-5</i> J	0.00								د شکنت.	
170		QUD- mapout rait rimai			0.00									

Quality Control

Memo

0.00

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UF	PDATE	QA Closed:	Date:	
	-			-									****
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
	-					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part i	No.					Scrap	1	ſ	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	•					Use-as-is		Therm	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR I	۷ο.					Work Order Update			Large Fab	Composite		Supplier	
Root					Descri	ption of work order update	T	Initial	A	ction	Sign &		1
Cause		Date	Step	Qty	(or Non-conformance	CI	nief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator													
Material	Ш												
Setup				1		•							
Other													
Process													
Supplier													
Training									:			1	
Unapproved											<u> </u>		<u> </u>
							FAU	LT CATE	GORY				
Landi	ng G	Bear				General		_			-		,
	-	Bending				Bend	L	Grain			Ovalized	<u> </u>	Pressure/Forced
		Centre No	ot Conce	ntric to (o/s	BOM/Route	_	Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Ш	Cracks				Broken/Damaged		⊣ `	on Incomplete		Part Incorre		Weld
	\vdash	Crushed/	Crimped		lacksquare	Burrs		-1	ions Incomplete	/Unclear	Part Lost/Mi	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
	Ш	Heat Trea	at			Countersink		Mislabe	led		Positioned V	Vrong	-
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	l		Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work	Ordei	· ID	1061	110
August 2	Q 12 1.1	0 · 10 P	M	

400440

	August-28-13 1:10:19 PM Item ID: D3016-041			"106	11h"	·	· · · · · · · · · · · · · · · · · · ·		rage 3
Item ID: Revision ID:	D3016-041			Accept	*N900040	100*	Setup	Start	*NS1*
Item Name:	Seat Frame A	Assembly						Stop	*NS2*
Start Date:	8/28/13	Start Qty: 1.00	*1*		Cust Item ID:				
Required Dat	te: 8/28/13	Req'd Qty: 1.00	*1*		Customer:				
Reference:						_	-	64 - 4	
Approvals:	Process Pl	lan:	Date:	Tooling:	Date:		Run	Start	*NR1*
	QC:		Date:	SPC (Y/N):	Date:			Stop	*NR2*
Sequence ID/ Work Center		Operation Description Identify as per dwg & S	tock Location: 6 - A	Set Up/ Run Hours	Tool ID Tool #		Accept Rej Oty Oty		Reject Insp. Number Stamp
150 Packaging		Memo		0.00			<u>/</u>		
Packaging 160 *160*		QC21- Final Inspection	- Work Order Release	0.00			D	./_A	V 13-10-3
QC Quality Control		Memo		0.00				,	

418103

											DQA.	Da	ιe	
NCR:	Yes	/ No		5.		WORK ORDER NON-C	COI	NFORI	MANCE / UPDATE		QA Closed:	Da	te:	
W1-0-4						DISPOSITION			AGAINS	T DE	PARTMENT	/PROCESS		
Work Orde Part I	- . No.					Rework Scrap Use-as-is Work Order Update			Skid-tube Crosstub Machining Small Fa noforming Finishin Large Fab Composit	b g	-	Water Jet d. Eng. Coor. re/Packaging Supplier		Engineering Quality Other
Root	-				Descri	ption of work order update		Initial	Action		Sign &			
Cause	İ	Date	Step	Qty	l '	or Non-conformance	Cr	nief Eng	Description		Date	Verificatio	n	QC Inspector
Doc/Data	П													
Equip/Tooling	П													
Operator														
Material											ì			
Setup	П													
Other	П				1									
Process	П													
Supplier	П													
Training	П										-			
Unapproved	П													
						F	ΑUI	LT CATE	GORY					_
Landi	ng G	iear				General		_				i		
		Bending				Bend	L	Grain			Ovalized			Pressure/Forced
		Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance		Temperature/Cure
		Cracks				Broken/Damaged		Inspect	on Incomplete		Part Incorre	ct		Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete/Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs			<u>.</u>	Contamination		Mainte	enance		Part Moved			
		Heat Tres	at			Countersink		Mislahe	aled		Positioned V	Vrong		

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Work Order ID:

106116

Parent Item:

D3016-041

Parent Item Name:

Seat Frame Assembly

Start Date: 8/28/13

Required Date: 8/28/13

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Qtv	Qty Issued	Date Issued	Status
M4130NT0.750W.049		Purchased	No			100	f	167.6682	4.3	4.5263158 EZ /3:	3,2		
4130 RD Tube .750 x.049W										EL 13:	7.25		
				Location		Loc Qty	Lo	c Code					
		•		MAT033		167.6681893							
					3339	2.1217893				7 1			
					5252	29.3164				<u> </u>			
				125	313	136.23		** 00.00		<u>/ . </u>			
M4130NT0.500W.049 4130 RD Tube .500 x.049V	' !	Purchased	No			100	f	55.0860	4.3	4.5263158	3 / 3. s	5-25	and the state
				Location		Loc Qty	Lo	oc Code					
*				MAT032		55.086							
•				121	1025	1.82							
					3339	33.556							
*** **********************************				124	1293	19.71							
M4130NT1.000W.120		Purchased	No			100	f	33.4825	1.5	1.5789474 <u>LZ</u> 13	9.	7	
4130 RD Tube 1.00 x .120v	vall		. A						Q ()		- 3/		
\		11765611.	۶Š" _م	Location		Loc Oty	<u>L</u> e	oc Code					
· ·	ŀ	11162621.0		MAT033		33.4825				<u></u>			
<i>y</i> .	1				1293	9.71				 ,			
				ml	26545	23.7725							
D3016-17		Manufactured	No		_	100	Each	0.0000	2	Ω^2	12-6	9~27	•
Gusset				6749 X	7						~~ y		·
D3016-13		Manufactured	No			100	Each	15.0000	2	2 امير	17 - 5	7-30	
Bracket									-				
				Location		Loc Oty	L	oc Code					
				WA001 <	~	14							
				(100	0818	14							

											DQA.	Date	·
NCR:	/es	/ No				WORK ORDER NON-C	O	NFORI	MANCE / UPDATE		OA Classel.	. Deta	
							•				QA Closed:	Date	
Work Orde	er:					DISPOSITION			AGAI	NST DE	PARTMENT/	PROCESS	
, work or at	- ' ' -					Rework	۱		Skid-tube Crosst	ube]	Water Jet	Engineering
Part N	No.		•		•	Scrap		į .	Machining Small		Proc	l. Eng. Coor.	Quality
	•					Use-as-is		1	noforming Finish	<u> </u>		e/Packaging	Other
NCR N	No.					Work Order Update			Large Fab Compo	- - -		Supplier	
				•			•						
Root					Descri	iption of work order update		Initial	Action		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Cł	hief Eng	Description		Date	Verification	QC Inspector
Doc/Data		•						•					
Equip/Tooling			1										
Operator									·				
Material										•			
Setup				·	· ·								
Other													
Process													
Supplier													4.
Training													·
Unapproved			<u> </u>	<u> </u>									<u> </u>
, .					·		AUI	LT CATE	GORY				
Landi	_				· <u>-</u>	General		- :		_	1	_	- .
		Bending			- L	Bend	⊨	Grain			Ovalized		Pressure/Forced
	Н	Centre N	ot Conce	ntric to	0/5	BOM/Route	_	Hardwa			Over/Under t	_	Temperature/Cure
		Cracks			.	Broken/Damaged	┝	-i :	ion Incomplete	<u> </u>	Part Incorrec	. —	Weld
l .	1	Crushed/	Crimped			Burrs	1	Instruct	tions Incomplete/Unclear		Part Lost/Mis	ssing	Wrong Stock Pulled

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Part Moved

Positioned Wrong

Power Loss/Surge

Other

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cuffs

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

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August-28-13 1:10:19 PM

Work Order ID: Parent Item: Parent Item Name:	106116 D3016-041 Seat Frame Assembly	y			Start Date: 8/28/13 Start Qty: 1.00	Required Date: 8/28/13 Required Qty: 1.00
D3016-15 Gusset		Manufactured N	No	100 Each 17.0	\mathcal{Z}^2	13-9-27
			<u>Location</u> WA	<u>Loc Oty</u> <u>Loc Cod</u>	<u></u>	
			97657 WA0 <u>01</u>	3 .		
			95695 WA002	1	_ 	
D3020-1 Fitting		Manufactured	90616 No	1 100 Each 13.0	0000 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2.25
			Location WA	<u>Loc Oty</u> <u>Loc Cod</u>	<u>le</u>	
			100923	13	_4	

NCR: Y	es / No				WORK ORDER NON-C	COr	NFORI	MANCE / UPI	DATE	QA Closed:	Date:	
Work Orde					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	lo.				Rework Scrap Use-as-is Work Order Update			Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update		nitial		tion	Sign &		· · · · · · · · · · · · · · · · · · ·
Cause	Date	Step	Qty		or Non-conformance		ief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup												•
Other Process Supplier Training Unapproved								. •				
	-				F	AUL	T CATE	GORY				
Landir	Bending Centre N Cracks Crushed/ Cuffs Heat Trea Inspectio Ripples in Torque V	Crimped at n Strip in n Bend Vaves in E	Tube		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing	—	Instruct Mainte Mislabe Misread Offset Out of (ion Incomplete tions Incomplete/U enance eled d	Unclear	Ovalized Over/Under Part Incorre Part Lost/Mi Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Turning S			` 	Finish		1	Sequence				

Outside Dimensions

Date:

Wave/Twist in Tube

Finish Folio

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	DESIGN	'up	DRAWN BY	DART AEROSPACE L' HAWKESBURY, ONTARIO, CANADA	TD
	CHECK	ED .	APPROVED	DRAWING NO.	REV. A
		4	#	D3016 s	HEET 1 OF 3
ļ	DATE		<u> </u>	TITLE	SCALE
	01.0	5.18		SEAT FRAME ASSEMBLY	NTS
	Α		01.05.18	NEW ISSUE	

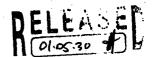
QTY	PART NUMBER	DESCRIPTION	MATERIAL
Х	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3020-1	FITTING	N/A

NOTES

- WELD PER DART QSI 004
- ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

UNCONTROLLED COE SUBJECT TO AMENDMINS! WITHOUT NOTIFE ENGINAFRING RETURNIO

DEO ATTACHED

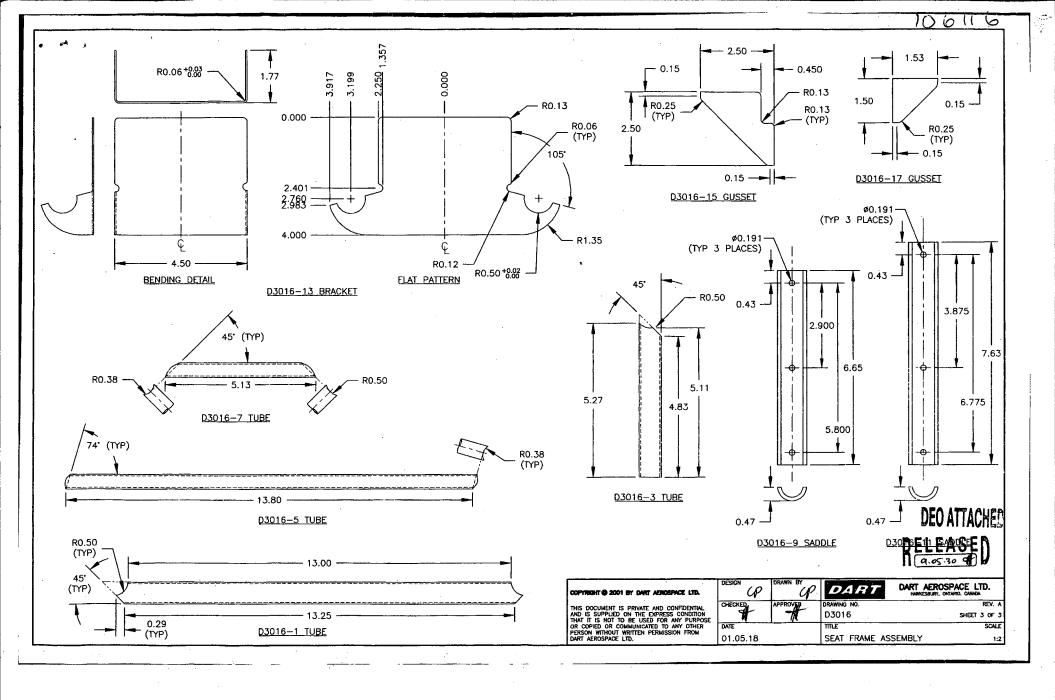


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01.05.18

SEAT FRAME ASSEMBLY



106116

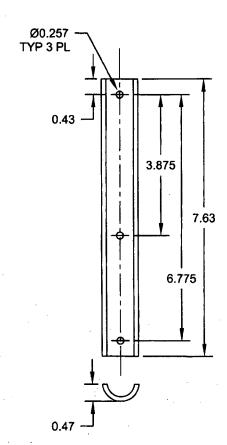
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•						4	·			
DRAWING NO.	TITLE			REV. A	DART AE	ROSPACE LTD	D.E.O. N	NO.	SHE	ET NO.	SCALE
D3016	SEAT FRAI	ME ASSEME	3LY	_	ENGINE	ERING ORDER	D3016	i-A-1	SHEET	Г1 О Ӻ 1	NTS
DRAWN	t .	CHECKED	U	7	MFG. APPR.	B	APPROVED	W	DE APPR.	-#	
DATE 1	0.01.29	DATE	10.0	11.75	DATE	10,01.29	DATE	10.01.29	DATE	10-01-29	

<u>PURPOSE:</u>
TO REVISE D3016-11 SADDLE'S HOLE SIZES

CHANGE:

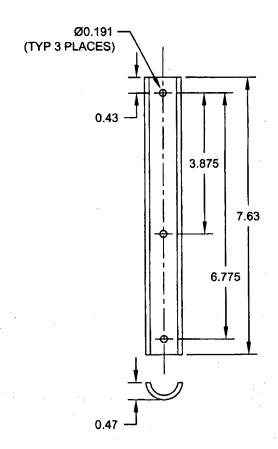
DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

IS:



D3016-11 SADDLE

WAS:



D3016-11 SADDLE

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